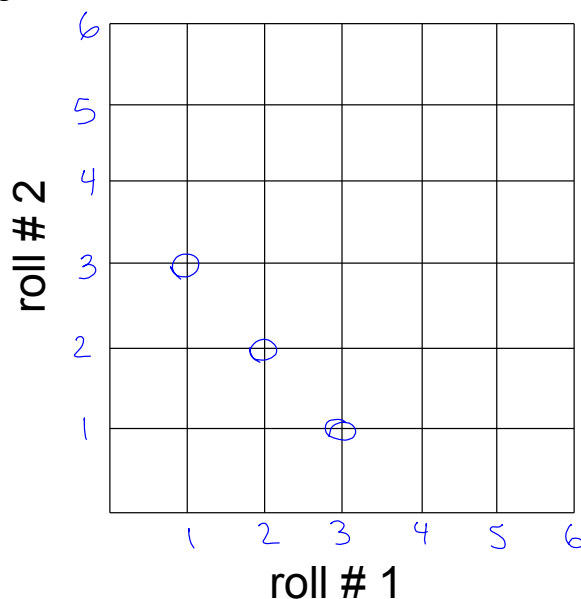


Warm Up # 8- 3

1. What is the probability of getting a two when you roll a fair, six-sided die?
2. Roll the die twice.
 - a) What are the ways you could roll a sum of 4?
 - b) How many different combinations are there for rolling the die twice?
 - c) What's the probability of getting a sum of 4?

Lattice or Grid Diagrams

To organize the outcomes of an event like our warm up:



ways to
get a
sum of
4

↓

1, 3
2, 2
3, 1

HW Questions: p. 229

REVIEW SET 7B**1** True or false?

a $\mathbb{N} \subset \mathbb{Q}$

b $0 \in \mathbb{Z}^+$

c $0 \in \mathbb{Q}$

d $\mathbb{R} \subseteq \mathbb{Q}$

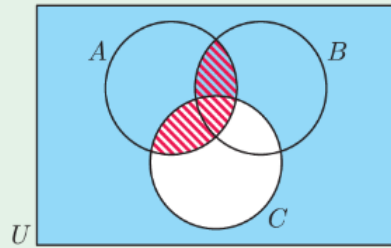
e $\mathbb{Z}^+ \cap \mathbb{Z}^- = \{0\}$

*proper subset***2 a** Write in interval notation:**i** the real numbers between 5 and 12**ii** the integers between -4 and 7 , including -4 **iii** the natural numbers greater than 45 .**b** Which sets in **a** are finite and which are infinite?**3** List the subsets of $\{1, 3, 5\}$.**4** Let $U = \{x \mid 0 < x < 10, x \in \mathbb{Z}\}$, $A = \{\text{the even integers between } 0 \text{ and } 9\}$, $B = \{\text{the factors of } 8\}$.**a** List the elements of: **i** A **ii** $A \cap B$ **iii** $(A \cup B)'$ **b** Represent this information on a Venn diagram.**5** S and T are disjoint sets. $n(S) = s$ and $n(T) = t$. Find:

a $S \cap T$

b $n(S \cup T)$

6



Give an expression for the region shaded in:

- a** blue **b** red.

10 At a conference, the 58 delegates speak many different languages. 28 speak Arabic, 27 speak Chinese, and 39 speak English. 12 speak Arabic and Chinese, 16 speak both Chinese and English, and 17 speak Arabic and English. 2 speak all three languages. How many delegates speak:

- a** Chinese only
b none of these languages
c neither Arabic nor Chinese?

Experimental vs Theoretical Probability

$$P = \frac{f}{n}$$

Example: Toss a coin.

Probability of getting heads?

$$\frac{1}{2}$$

Toss a hundred coins?

Toss a thousand coins?

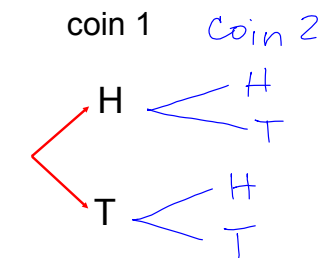
The more times you toss the coin, the closer the Experimental Probability will be to the Theoretical Probability.

Tree Diagrams

Showing all the possible outcomes of an event.

Example:

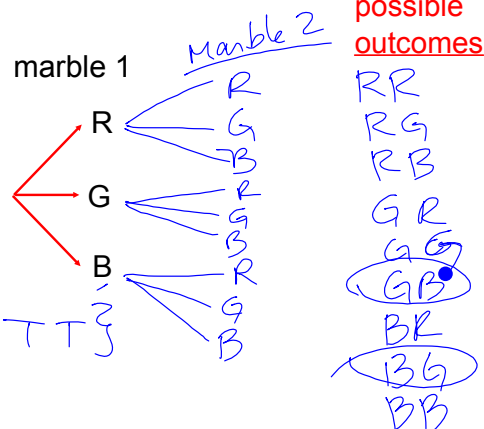
Tossing two coins



sample space = {HH, HT, TH, TT}

Example:

Drawing 2 marbles out of a bag that has many red, green and blue marbles.



HW: 9B p. 266, # 2ad, 3

Read p. 267-268,

do 9C.1 p. 268, #1 - 4